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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,537	03/07/2005	Toshio Narita	042541	1210
38834	7590	07/26/2006	EXAMINER	
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			LAVILLA, MICHAEL E	
		ART UNIT	PAPER NUMBER	
			1775	

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/506,537	NARITA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael La Villa	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 02 May 2006.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3,5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3,5 and 6 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 03 September 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                     | Paper No(s)/Mail Date. _____ .  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:
  2. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
  3. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.  
Regarding Claim 1, applicant has amended this claim, and hence subsequent claims, to remove references to diffusion heat treatment. In applicant's discussion of these amendments in applicant's Response of 2 May 2006 at pages 4-6, applicant explains that the exemplified embodiment of the Specification relates to diffusion heat treated articles. It is unclear, therefore, what is the grounds for supporting the claims as proposed without reference to diffusion heat treatment. The original disclosure relates to diffusion heat treated articles that result in alpha chromium phase, but it is unclear where layers having 85 % or more are taught.
4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  5. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1775

6. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. Regarding Claim 1, it is unclear what is the percentage basis that Cr content is to measured against. Is this "by weight," "atomic," "by volume," or something else? It is unclear whether the content of the layer is to be 85% or more of Cr or of alpha chromium phase. It is unclear whether the content of the alpha chromium phase is to be 85% or more of Cr.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
  9. A person shall be entitled to a patent unless –
  10. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
11. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Rairden, III USPN 3,998,603 for the reasons of record in the Office Action mailed on 8 February 2006.

***Double Patenting***

12. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).
13. A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in

scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

14. Applicant is advised that should claim 3 be found allowable, claim 6 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Response to Amendment***

15. The objection to the Abstract of the Office Action mailed on 8 February 2006 is withdrawn.

16. The claim objection of the Office Action mailed on 8 February 2006 is withdrawn.

17. The section 112, second paragraph rejections of the Office Action mailed on 8 February 2006 are withdrawn.

18. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Rairden, III of the Office Action mailed on 8 February 2006. Applicant argues that Rairden, III does not teach or suggest the claimed inner layer of alpha chromium with greater than 85 % Cr. Applicant argues that Rairden, III may teach a high Cr diffusion barrier, but that the barrier composition is not the claimed composition of more than 85 %. Applicant estimates the barrier layer composition of Rairden, III from Figure 3 of Rairden, III, and notes it in the phase diagram of Explanatory Drawing of the Response of 2 May 2006.

19. Rairden, III teaches that Rairden, III's barrier layer comprises alpha chromium on a layer of nickel and chromium and refers to the barrier layer as a high chromium diffusion barrier. See Rairden, III (col. 7, lines 5 and 6). A layer formed of nearly equal amounts of chromium and nickel, as suggested by applicant as the composition of the barrier, would not be referred to as a high chromium barrier. Hence, this terminology used by Rairden, III is inconsistent with applicant's estimate. Moreover, according to the phase diagram provided by applicant in the Explanatory Drawing of the Response of 2 May 2006, for there to be alpha chromium phase present, the chromium concentration would be expected to be in excess of 90 atomic percent since there is a near absence of aluminum in Rairden, III's layer. Hence, accepting Rairden, III's characterization of the layer as containing alpha phase as being valid, the claimed amount of chromium would be expected to be present. Furthermore, Rairden, III's characterization of the presence of alpha phase may be correct, even if only present in localized regions. Notwithstanding applicant's estimate, Rairden, III provides a *prima facie* case of alpha chromium phase inner layer meeting the claimed requirements.

20. To overcome the *prima facie* case, applicant must favorably reconcile this apparent discrepancy between Rairden, III's characterization of there being a layer constituting alpha chromium phase and applicant's estimate which suggests that alpha phase is absent. In view of the positioning of Rairden, III's example in the phase diagram, applicant's argument implies that no alpha phase is present, not merely that alpha phase with greater than 85% is not present. It is

remarked that the apparent contradiction that Raideren, III's Figure 3 compositional estimates for the diffusion barrier layer do not correlate with alpha phase may be explained by extreme thinness of the diffusion barrier layer as compared to the size of measurement beam probe. In this circumstance, a decrement in nickel and an increase in chromium would be detected, as seen in Figure 3 of Raideren, III, but absolute values of concentration would not be reliable for the diffusion barrier layer since some nickel from the overlayer or underlayer would always be measured in addition to the nickel of the diffusion barrier layer.

21. Rejection over Raideren, III is maintained.

***Conclusion***

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

23. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

Art Unit: 1775

the statutory period for reply expire later than SIX MONTHS from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael La Villa  
13 July 2006



MICHAEL E. LAVILLA PH.D.  
PRIMARY EXAMINER